# Shattuck Superfund Site

## Winter 2004 Update

**January 2004**

Colorado Department of Public Health and Environment

The S.W. Shattuck Chemical Company Superfund site (Shattuck) is located at 1805 S. Bannock Street in Denver, Colorado (see **Figure 1**).


**Figure 1. Site Location Map**

## SITE OPERATIONS

With the successful move of the Mining Structure to Setup 3, monolith demolition is again underway. Heavy equipment (two excavators with hydraulic hammers, an excavator with a digging bucket, and a front end loader) breaks up the monolith and loads the conveyor belt that carries the waste material to the Loadout Structure (see **Figure 2**).

**Figure 2. Monolith Demolition using Two Excavators with Hydraulic Breakers (Setup 2).**

During the week of September 15, 2003, Shaw, the site contractor, tested two excavators with grinding wheels for monolith demolition to determine their effectiveness and productivity (see **Figure 3**). After reviewing the results, the previous mining method (two excavators with hydraulic breakers) was re-instituted.

**Figure 3. Pilot Test of Two Excavators with Grinding Wheels.**

Loadout operations continue to fill up to five rail cars a day with up to 108 tons of waste material in each rail car (see **Figure 4**). The railroad pulls out up to 20 rail cars a week from the Shattuck rail spur. As of November 26, 2003, site operations has removed 25 percent of the waste from Shattuck in 507 rail cars.

**Figure 4. Loaded Railcar (Loadout Structure).**

Pre-verification soil sampling results, when compared to the 2000 Record of Decision (ROD) Amendment, resulted in the Corps of Engineers' approval on October 30, 2003, to relocate the Mining Structure to Setup 3. Some areas within Mining Structure Setup 2 were excavated to the 1996 Closure Survey (CS) surface based on the previous remedy (see **Figure 5**). The

sampling covered 100 percent of the mined area, which included sampling at the bottom of the 1996 CS excavated areas.

**Figure 5. Underlying Soil Excavation (Setup 2).**

## MINING STRUCTURE RELOCATION

Geosynthetic material covered the monolith's exposed working face from October 22 to November 5, 2003, during the underlying soil excavation and Mining Structure relocation. Applicable health and safety and radiological monitoring continued during relocation. Following engineering preparations, Shaw moved the five modules of the Mining Structure approximately 75 feet north to the third setup position (see **Figure 6**).

**Figure 6. Preparation for Mining Structure Relocation to Setup 3.**

Re-tensioning of the fabric links made the Mining Structure ready for operations on November 5, 2003.

With clean cover removal at Setup 3 completed on November 7, 2003, mining operations resumed on November 11, 2003.

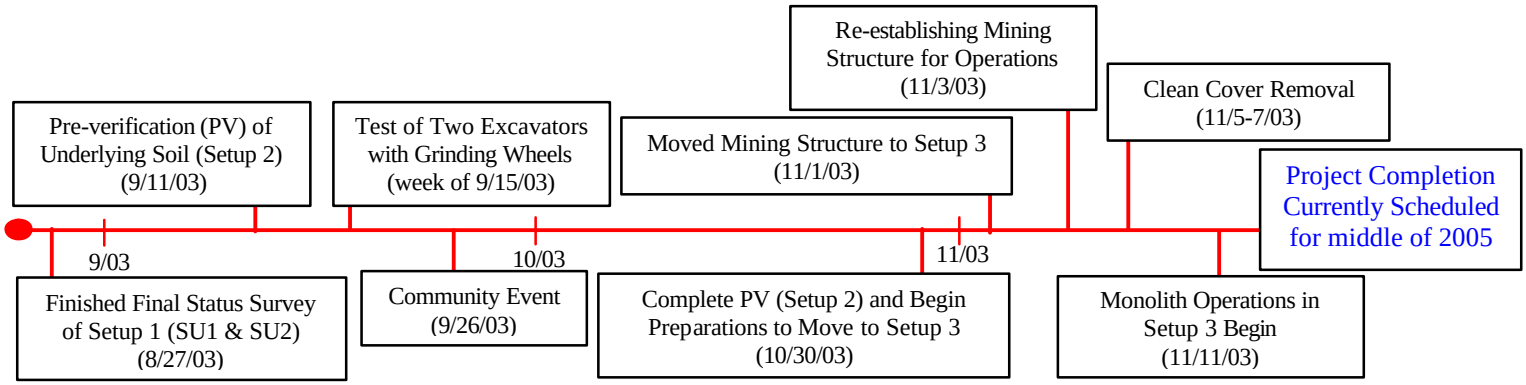
## FINAL STATUS SURVEY

Shaw completed the Final Status Survey for the Initial Setup (Survey Units 1 and 2) on August 27, 2003 (see **Figure 7**). The survey collected 21 samples in each of the survey units based on the triangular pattern in the MARSSIM analysis. Sample results were analyzed and compared to the 2000 ROD Amendment cleanup criteria. The sample data submitted to the Corps of Engineers resulted in approval on November 4, 2003, to begin backfill of Survey Unit 2. Clean cover material partially backfilled Survey Unit 2. The State of Colorado also is conducting independent verification on the two survey units for quality assurance.

**Figure 7. Final Status Survey Area.**

## COMMUNITY EVENT

On September 26, 2003, the EPA hosted an event at the Shattuck site for Congresswomen Diana DeGette, Mayor John Hickenlooper, and local community patrons. The event provided guests with insight into the daily site operations and the progress of the Shattuck project.



## SAFETY MONITORING

As required by the site and community health and safety plans, perimeter and personnel monitoring operates at the site.

As of September 2003 (the most recent quality-checked data), the sitewide cumulative annual radiological dose is 0.2 millirems, which is substantially less than the regulatory limit of 10 millirems. Sitewide non-radiological metal measurements for lead, arsenic, and selenium continue to show levels that are much lower than national air quality standards.

Eight on-site high volume air samplers and pumps monitor air at the site perimeter continuously 24 hours a day, seven days a week. For comparison, an off-site background high volume air sampler and pump at the Englewood Golf Course also runs continuously. A background PM-10 dust monitor runs 24 hours a day, seven days a week, and work area PM-10 dust monitors operate during intrusive activities on-site (i.e. monolith mining and loadout).

Personnel monitoring during intrusive activities includes thermoluminescent dosimeters, radon dosimeters, and noise dosimeters, breathing zone sampling for site radionuclides, lead, arsenic, selenium, and silica, and real-time monitoring for ammonia, nitrogen dioxide, and carbon monoxide.

Vibration monitoring is also being conducted at the site perimeter.

## SITE SECURITY

The site has a security guard 24 hours a day, seven days a week. In addition, a security monitoring system operating at the site includes an electronic card reader system for check points around the site and a security camera along the Shattuck site railroad spur.

## UPCOMING EVENTS – WINTER 2003-2004

Site operations including monolith mining and waste shipments will continue on schedule.

The Final Status Survey for Setup 2 excavated area will be performed (Survey Units 3 and 4).

## FOR SITE AND PROJECT INFORMATION

Visit the **EPA Shattuck web site:**

http://epa.region8/superfund/shtk/shattuck.html

Visit one of the **Information Repositories** listed on the back page.

## FOR INFORMATION ABOUT SHATTUCK CITIZEN ADVISORY GROUP MEETINGS

Contact: Rob Henneke, EPA, (303) 312-6734.

## FOR MORE INFORMATION

Contact an agency representative listed on the back page.

## ABOUT THE SITE

The Shattuck site is about 6 acres of S.W. Shattuck Chemical Company property.

The original Record of Decision (ROD) was signed in January 1992. In it, EPA selected on-site stabilization and solidification in the form of a monolith as the remedy for the soils and natural attenuation for ground water.

EPA conducted a five-year review of the Shattuck site and found site-specific deficiencies in the monolith cover design, the structural and chemical integrity of the monolith, and the monolith's compliance program. Based on these findings, EPA could not be assured of the long-term protection of the original remedy.

On June 16, 2000, EPA selected off-site removal in a ROD Amendment because it best met Superfund's nine evaluation criteria. EPA will remove the contaminated soil and monolith to U.S. Ecology, a permitted facility in Grandview, Idaho.

**Benefits of Off-site Disposal:**

- Removes uncertainties concerning the long-term protection of human health and the environment;
- Allows for unrestricted land use upon remedy completion; eliminates reliance on land-use restrictions;
- Removes source material that could potentially contribute to future ground water contamination; and
- Disposes of material in a permitted facility, which will be most protective of human health and the environment.

## Information Repositories

**Documents related to the Shattuck site clean-up process are available for public review at the following locations:**

**EPA Superfund Records Center**
**South Tower, 3rd Floor (check-in)**
**999 18th Street**
**Denver, Colorado 80202**
**Monday-Friday 8:00-4:30**
**(303) 312-6473**

**Colorado Department of Public Health and Environment**
**Record Center, B Building, 2nd Floor**
**4300 Cherry Creek Drive South**
**Denver, Colorado 80246**
**Monday-Friday 8:00-5:00**
**(303) 692-3331**

**Decker Branch, Denver Public Library**
**1501 South Logan Street, Denver, Colorado 80210**
**Monday 10:00-8:00; Tuesday 12:00-8:00; Wednesday, Thursday, Saturday 10:00-5:30; Friday, Sunday closed**
**(303) 733-7584**

## For More Information Contact: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**Denver, CO 80202-2466**
**Toll-free (800) 227-8917 x6734**

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